AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method for forming an endovascular occlusion comprising the step of controlling injection of a purified alginate liquid and injection of a calcium chloride solution to a targeted area within a vascular system, wherein the injection of the purified alginate liquid and injection of the calcium chloride solution are at variable injection rates, either within an injection stage or across injection stages, and wherein the purified liquid alginate is of a molecular weight from about 65,000 to about 200,000.

2.-4. (Canceled).

5. (Canceled)

6. (Original) The method according to claim 1, wherein the injection flow rate of the calcium chloride solution is variable during injection.

7. (Original) The method according to claim 1, wherein injection of the calcium chloride solution occurs at staged intervals.

8. (Canceled)

9. (Canceled)

10. (Original) The method according to claim 1, wherein the injection flow rate of the alginate liquid solution is variable during injection.

11. (Original) The method according to claim 1, wherein injection of the alginate liquid solution occurs at staged intervals.

12. (Original) The method according to claim 1, wherein the injection flow rates of the alginate liquid and the calcium chloride solution are about equal during injection.

13. (Original) The method according to claim 1, wherein the injection flow rates of the alginate liquid and the calcium chloride solution are different during injection.

14. (Original) The method according to claim 1, wherein injection of the alginate liquid and injection of the calcium chloride solution occur at staged intervals.

15. (Original) The method according to claim 1, wherein one or more agents are added to the alginate liquid during the controlled injection.

16. (Original) The method according to claim 15, wherein the one or more agents are selected from the group consisting of therapeutic drugs, radioactive or contrast agents, growth enhancers or inhibitors, or any combination thereof.

17. (Currently Amended) A method for forming an endovascular occlusion comprising the steps of:

a. Providing a catheter comprised of at least two lumens, and

b. Forming a calcium alginate polymer in a targeted area within a vascular system by controlling injection of a purified alginate liquid and injection of a calcium chloride solution to the targeted area through the catheter, wherein the polymer is formed external to the catheter within the target site and wherein injection of the purified alginate liquid and injection of the calcium chloride solution are at variable injection rates, either within an injection stage or across injection stages, and wherein the purified alginate liquid is of molecular weight from about 65,000 to about 200,000.

18-20. (Canceled).

21. (Original) The method according to claim 17, wherein the at least two lumens are concentric.

22. (Canceled).

23. (Currently Amended) A method for forming an endovascular occlusion comprising the steps of:

a. providing at least one assist device to a targeted area in a vascular system, and

b. controlling injection of a purified alginate liquid and injection of a calcium chloride solution to the targeted area, wherein injection of the alginate liquid and injection of the calcium chloride solution are at variable injection rates, either within an injection stage or across injection stages, and wherein the purified alginate liquid is of molecular weight from about 65,000 to about 200,000.

24. (Original) The method according to claim 23, wherein the at least one assist device comprises a coil, a stent, a balloon, or any combination thereof.

25. (Currently amended) A method for forming an endovascular occlusion comprising the steps of:

a. providing an ion-permeable balloon to a targeted area in a vascular system,

b. controlling injection of a purified alginate liquid having a high guluronic acid content to the targeted area; and

c. controlling injection of a calcium chloride solution to the targeted area by injecting the calcium chloride solution into the ion-permeable balloon, wherein the purified alginate liquid is of molecular weight from about 65,000 to about 200,000.

26. (Currently amended) A method for forming an endovascular occlusion comprising the steps of:

a. providing a balloon to a targeted area in a vascular system, and

b. controlling injection of a purified alginate liquid having a high guluronic acid content and injection of a calcium chloride solution to the targeted area,

wherein the alginate liquid and the calcium chloride solution are injected asynchronously, ~~and~~ wherein the balloon has one or more built-in catheters, and wherein the purified alginate liquid is of molecular weight from about 65,000 to about 200,000..

27. (Currently Amended) A method for forming an endovascular occlusion comprising the steps of:

a. providing at least one pre-coated coil to a targeted area in a vascular system, and

b. controlling injection of a purified alginate liquid having a high guluronic acid content and injection of a calcium chloride solution to the targeted area,

wherein injection of the alginate liquid and injection of the calcium chloride solution are at variable injection rates, either within an injection stage or across injection stages, and wherein the purified alginate liquid is of molecular weight from about 65,000 to about 200,000.

28. (Original) The method according to claim 27, wherein the coil is pre-coated with at least a conformal coating of alginate gel.

29. (Original) The method according to claim 27, wherein the coil is pre-coated with at least a conformal coating of unreacted alginate liquid.

30. (Original) The method according to claim 27, wherein the coil is pre-coated with at least calcium chloride ions.

31. (Original) The method according to claim 27, wherein the coil is pre-coated with collagen, permeable gel, or polymer material.

32. (Original) The method according to claim 28, wherein the coil is modified by ion implantation before placement of the coil in the targeted area.

33. (Canceled).

34. (Canceled).

35. (Previously Presented) The method according to claim 1, wherein the purified alginate liquid has a viscosity less than 25 cP.

36. (Canceled).

37. (Previously presented) The method according to claim 17, wherein the purified alginate liquid has a viscosity less than 25 cP.

38. (Previously Presented) A method for forming an endovascular occlusion comprising the steps of:

a. Providing a catheter comprising a microcatheter having a first lumen with a second catheter disposed inside the first lumen, the second catheter having a second lumen that is concentric with the first lumen, the distal end of the second lumen being adjustable with respect to the distal end of the first lumen; and

b. Forming a calcium alginate polymer in a targeted area within a vascular system by controlling injection of a purified alginate liquid and injection of a calcium chloride solution to the targeted area through the catheter, wherein injection of the purified alginate liquid and injection of the calcium chloride solution are at variable injection rates.

39. (Previously Presented) The method of Claim 38, wherein the distal end of the second lumen is adjusted with respect to the distal end of the first lumen so that the polymer is formed external to the catheter within the target site.

40. (Previously Presented) The method according to claim 39, wherein the purified alginate liquid is of molecular weight from about 65,000 to about 200,000.

41. (Previously Presented) The method according to claim 39, wherein the purified alginate liquid has a viscosity less than 25 cP.

42. (Previously Presented) The method of Claim 38, wherein the distal end of the second lumen is adjusted with respect to the distal end of the first lumen so that the polymer begins to form within the first lumen.

43. (Previously Presented) The method according to claim 42, wherein the purified alginate liquid is of molecular weight from about 65,000 to about 200,000.

44. (Previously Presented) The method according to claim 42, wherein the purified alginate liquid has a viscosity less than 25 cP.